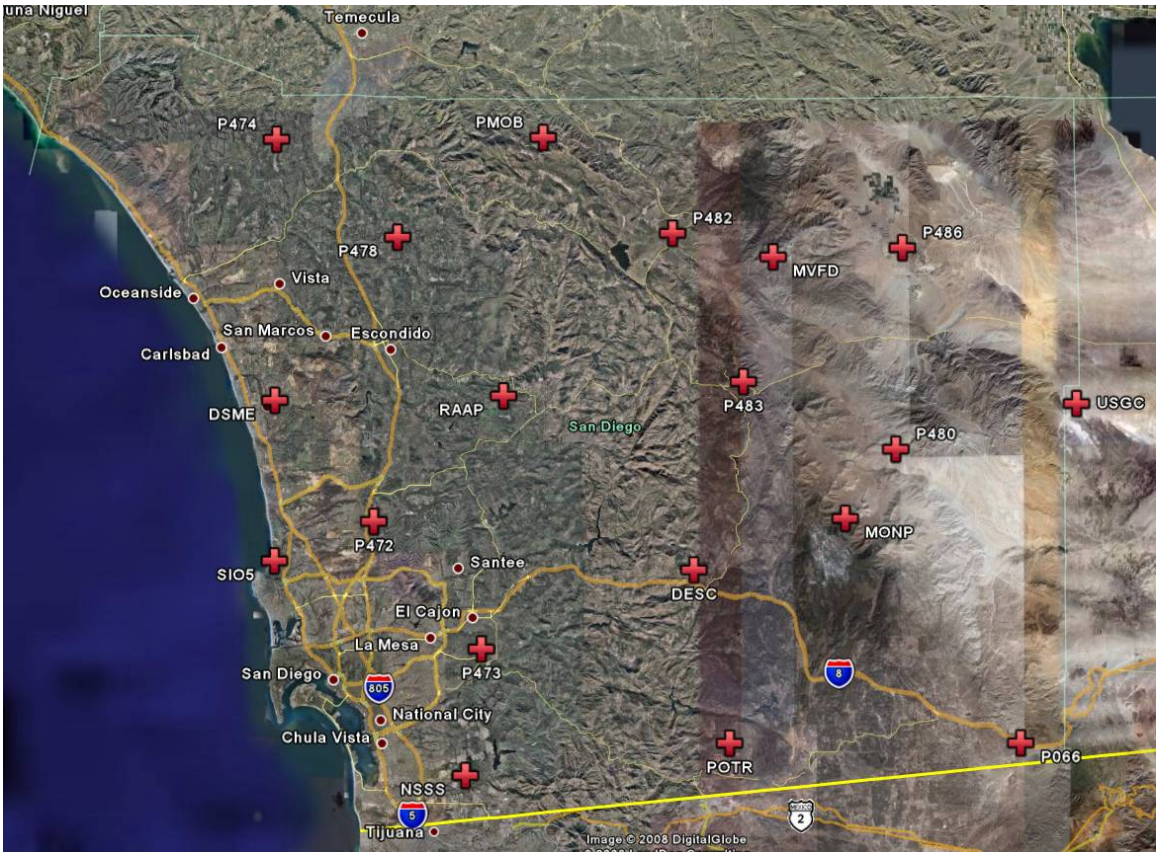
Procedures for Using the San Diego County Real Time Network (SDCRTN)



Map provided by Google Earth

DISCLAIMER

San Diego County provides the SDCRTN as a service to the general surveying community. The County makes no expressed warranty or guaranty as to the accuracies of the resultant coordinate values or their use. Use of the SDCRTN should only be attempted by experienced professionals, licensed to practice land surveying in the State of California.

The County makes no expressed warranty or guaranty that on any given day the network or any part thereof will be up and running. The County will however, endeavor to post the current day status of the system or future planned service outages on our webpage.

The County is not responsible for the configuration of the different types of equipment utilized by the private sector professional in connection with the use of the SDCRTN. If you have specific questions, please direct them to your equipment supplier/representative.

The San Diego County Real Time Network consists of 19 continuously operating reference stations (CORS) spread through-out the county. The measurement data from these CORS is made available along with the reference station coordinates (NAD83 – epoch adjustment 2007.0). A dual frequency receiver and antenna along with a wireless data modem (and service) is all that you need to get started.

Surveying:
The SDCRTN is intended to be a network of Real Time Kinematic (RTK) base stations with the base station available to the RTK user via a wireless broadband connection. To access the base station data for a specific site the user connects to the SDCRTN server and the site specific port (for example: to connect to station “MONP” the modem would connect to 66.27.56.110.8043). Once the connection is established and the data is streaming to the RTK receiver, the RTK receiver software will attempt to solve for a “fixed” solution. The quality of the solution is dependent on the same factors that determine the quality of a traditional RTK solution (baseline length, satellite availability, atmospheric conditions, multipath, etc.). Your specific RTK receiver specifications should be consulted for more details or ask your equipment provider.

Equipment:
Single frequency receivers will work, however due to the long baselines, dual frequency receivers are recommended. The modem must be able to access the Radio Technical Commission for Maritime Services (RTCM) data via TCP/IP and stream it to the receiver. Among others, both Verizon and Sprint are know providers of mobile broadband within San Diego County. Currently, San Diego County field crews use Leica SR530 receivers with Airlink Raven Code Division Multiple Access (CDMA) modems.

Base Station Coordinates:
The broadcast coordinates for the reference stations are North American Datum 1983 (NAD83) 2007.0 epoch adjustment. The reference station coordinates were obtained from the California Spatial Reference Center (CSRC) Scripps Epoch Coordinate Tool and Online Resource (SECTOR). The base station elevation is the ellipsoid elevation of the antenna L1 phase center. The base station antenna settings in the RTK receiver should be: antenna height=0.00; antenna = unknown; and antenna offset = 0.00.

Server Parameters:

SDCRTN Server IP: 66.27.56.110

Site	Port	City	NAD83(2007.0)		L1 Phase Ctr
I.D.			Latitude	Longitude	Ellipsoid Elev.
					U.S. Feet
desc	8058	Descanso	32 49 47.693144	-116 38 30.421728	3143.60
dsme	8030	Encinitas	33 2 11.304306	-117 14 58.276625	187.00
monp	8043	Laguna Mountains	32 53 30.970516	-116 25 20.408718	6048.40
mvfd	8045	Ranchita	33 12 39.127868	-116 31 31.078974	3907.37
nsss	8062	Chula Vista	32 34 45.520226	-116 58 21.605641	408.41
p066	8059	Jacumba	32 36 59.473390	-116 10 11.182062	2702.69
p472	8040	San Diego	32 53 21.137297	-117 6 16.850477	455.13
p473	8055	Jamacha	32 44 1.578127	-116 56 58.203117	621.56
p474	8056	Fallbrook	33 21 18.678660	-117 14 55.238897	602.93
p478	8057	Valley Center	33 14 8.558161	-117 4 17.674285	1221.93
p480	8041	Vallecito	32 58 33.569100	-116 20 54.675907	1433.43
p482	8048	Warner Springs	33 14 24.629412	-116 40 17.033260	2885.79
p483	8060	Julian	33 3 32.974181	-116 34 9.519389	4515.85
p486	8049	Borrego Springs	33 15 36.673366	-116 19 20.178381	417.23
pmob	8019	Palomar Mountain	33 21 26.048854	-116 51 34.316529	5457.31
potr	8051	Potrero	32 37 6.267094	-116 35 27.055423	2398.84
raap	8027	Ramona	33 2 32.033188	-116 55 2.042713	1298.86
sio5	8021	La Jolla	32 50 26.630116	-117 14 58.830732	611.57
usgc	8018	Ocotillo Wells	33 1 48.214736	-116 5 7.154336	440.68

Port Assignment and Reference Station Coordinates - NAD83(2007.0)
The base station antenna settings in the RTK receiver should be;
antenna height=0.00, antenna = unknown, antenna offset = 0.00